

1975

Personnel

	<u>EOD</u>
1. Alfred O. Manke, Refuge Manager, GS-485-12, Permanent Full-time	8/8/71
2. Larry T. Keck, Refuge Manager, GS-485-7, Permanent Full-time	10/1/72
3. Bennie M. Hull, Bio. Tech., GS-404-6, Permanent Full-time	8/2/65
4. Marvin F. Lentz, Clerk (Typing), GS-301-5, Permanent Full-time	11/3/47
5. David A. Graber, Biological Aid, GS-404-3, Temporary Full-time	11/9/75
6. Stuart L. Burnside, Laborer, WG-3502-2, Part-time Furlough	4/7/72 - 10/25/75 (Furloughed)
7. Harold C. Milligan, Laborer, WG-3502-2, Part-time Furlough	5/14/75 - 10/25/75 (Furloughed)
8. Ervin Windsor, Laborer, WG-3502-2, Full-time Furlough	9/28/52 - 10/25/75 (Furloughed)
9. Bennie N. Howerton, Tractor Oper., WG-5705-7 Permanent Full-time	4/18/50 - 9/25/75 (Retired)

Review and Approvals

Alfred O. Manke
 Alfred O. Manke 1/18/77
 Submitted by _____ Date _____

Area Office _____ Date _____

Swan Lake NWR, Sumner, Mo.
 Refuge _____

Regional Office _____ Date _____

Some 1,750 acres were farmed by refuge personnel, 750 acres by Missouri Department of Conservation personnel, and 200 acres by two permittees. Refuge farming is considered the single most important program. It provides for the geese, and almost all other outputs are contingent upon the geese. Over 50 percent of the stations funds are spent on the farming program.

Dry weather facilitated mowing 450 acres of grasslands to retard woody vegetation. Much of this area is in native prairie grasses which were reestablished to reestablish prairie chickens.

Following normal practices, the water level in Swan Lake was lowered in the spring to encourage moist soil vegetation. Production was excellent, but for lack of water it could not be flooded. Normally, water is transferred from the larger Silver Lake to reflood moist soil vegetation in Swan Lake.

A peak of 94 bald eagles were counted on the refuge. Four were trapped. One had been banded previously, the other three were banded and transmitters placed on them as part of an eagle-waterfowl relationship study being conducted on the refuge.

Beginning with the 1970 hunting season, the high harvest states of the Eastern Prairie Population of Canada geese accepted restricting harvest regulations to increase the flock to a post-season level of 200,000 birds. The following table is quite convincing that "the gun" plays an important part in population levels.

Year	Peak Population
1969	110,200
1970	113,000
1971	160,500
1972	155,200
1973	163,100
1974	170,200
1975	196,000

Population figures obtained from aerial counts conducted by Missouri Department of Conservation waterfowl biologists.

Obviously, this somewhat remarkable increase in the population increases the potential for crop depredations and disease. More food must be produced on the refuge to sustain the flock and reduce the potential for severe crop depredations. Crop yields can be increased by greatly increasing the amount of fertilizers applied. How to prevent or combat disease is still a big question.

Hunting season for Canada geese in the Swan Lake Zone began at noon, October 29, and ended at sunset, December 5. A total of 52,374 hunters harvested 25,486 Canada geese; 486 over the quota. These figures include the 5,183 Canada geese harvested by 6,722 refuge hunters. The Missouri Department of Conservation administers the refuge hunt.

"Open House" continued to be one of the most popular events on the refuge. Over 6,000 people participated again this year. The "silo" observation tower had to be closed until additional safety measures can be made.

No accidents occurred on the refuge during the period.

ANNUAL NARRATIVE REPORT - FY 75
SWAN LAKE NATIONAL WILDLIFE REFUGE
SUMNER, MISSOURI 64681

PERSONNEL

<u>Name</u>	<u>Title</u>
Alfred O. Manke	Refuge Manager
Larry T. Keck	Assistant Refuge Manager
Marvin F. Lentz	Refuge Clerk
Benny W. Howerton	Med. Equipment Operator
Bennie M. Hull	Biological Technician
Ervin Windsor	Laborer
Stuart L. Burnside	Laborer
Harold Clark Milligan (EOD 05-14-75)	Laborer

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ANNUAL NARRATIVE REPORT - FY 75

SWAN LAKE NATIONAL WILDLIFE REFUGE

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I GENERAL

A&B Weather and Habitat Conditions

A year of trial, tribulation and tragedy was FY 75. It began with promise of an insufficient amount of food for geese, and it sustained its promise. A thousand acres had been planted to corn and sorghum. By July 15, adverse factors had already decimated corn fields to "half-stands." In essence the 800 acres planted had about 400 acres of corn scattered over them, and these inadequately fertilized. An early frost caught the 200 acres of drouth retarded sorghum prior to seed formation. Consequently, food production from this source was almost nil. Total grain production on the refuge was estimated to be 22,500 bushels. Some 1300 acres of winter wheat and 350 acres of clover provided a lot of browse, but with an unusually early arrival of geese and other foods in such short supply these were gleaned to the bone all too soon. By the first of November the geese had already exhausted the refuge's meagre larder. With almost 200,000 geese in the zone the stage was set for serious and wide-spread depredations.

In that century between November and April the weather was, by direct quote of a weatherman, "Peeyoo". Rain, freezing rain, sleet, snow and mixtures thereof turned the area into a quagmire. These conditions served to exacerbate depredation damages to wheat fields and pastures, and refuge roads became all but impassable. The former bestirred irate farmers to "hate" meetings, and the latter aggravated fishermen and fishermen aggravated the condition. This weather, or these weathers, also caused a continual ebb and flow of geese, and depredation complaints varied from far and near the refuge accordingly.

Spring finally sprung about May 1, and hopes for a better year quickened for "hops springs eternal". With 1100 acres of corn and sorghum planted by June 13, and all of it up, growing rapidly, and "looking good" by June 30, FY-76 would at least begin with a promise brighter than did FY-75.

II WILDLIFE

A. Migratory Birds

1. Waterfowl

FY-75 included a "Friday the thirteenth". It came in September, and

geese came with it. This extremely early arrival boded ill for the geese, the refuge, and the neighboring farmers. Its portend; too many geese for too long of a period for too little food. And so it was. On October 9, 1973, there were 42,000 Canada geese and 1,000 snow geese on the refuge. On October 7, 1974, there were 100,000 Canada geese and 10,000 snow geese on the refuge. This many alone would have consumed all of the grain on the refuge by November 1, but by then the population had increased to a peak of 150,000 Canada geese and 30,000 snow geese. After that the refuge population of geese gradually declined although the Swan Lake Zone population continued to increase to a peak of over 170,000 Canada geese by December 9. At that time there were about 110,000 on the refuge. From that time until their departure in the spring the refuge population varied between 40,000 and 100,000, and these as well as the other 70,000 were forced to forage off the refuge to sustain themselves. Obviously, this situation prompted numerous depredations complaints, and with the high costs of farming farmers took dim view of any depredations no matter how slight or small damages might be.

Since corn, sorghum and soybean fields were harvested quite early, the majority of the depredations complaints concerned winter wheat and pasture fields. Some 20 "scare-gun exploders" were loaned and reloaned, and a half-case of "shell-crackers" were issued to help relieve depredation damages. Each individual with a problem was furnished information and urged to purchase his own exploders. Some did, and some didn't. Of those who did not, it seemed as much a matter of principle as cost. Farmers accept and insure against flood, drouth, wind, hail and whatever; but geese are something else. They are "ours", we are responsible, and we better do something about them and "dammed quick". That we have visited this extra plague upon them in the proportions it has taken, this writer must agree. Total goose use days on the refuge amounted to almost 19,000,000, some 2,000,000 over the 17,000,000 target set as the refuge's objective. Grain production on the refuge in FY-75 was adequate to support no more than 3,000,000 goose use days. Browse supported perhaps a like amount. Consequently, refuge grain and browse crops together was less than one-third the amount of food needed for geese.

Duck use days on the refuge amounted to 8.4 million; almost one million more than the objectives target of 7.5 million. This average resulted primarily from an unusually large influx of divers. On November 4, an estimated 43,000 divers were on the refuge. Several thousands of these were redheads and canvasbacks. Consequently, this miscue is considered a plus factor although it was not the result of any direct management changes. In fact, ducks and duck use were two of the few exceptions to the trials, tribulations and tragedies of FY-75. They caused no problems, and were enjoyed by all.

2&3 Water and Shorebirds

Populations and species diversity of birds within these broad categories were above normal. Water levels in refuge pools were about a foot below normal during the July-October period, and this condition proved exceptionally attractive to these birds. Unusual species included 16 American avocets, 250 little blue herons and a few double-crested cormorants. Cormorants once regarded as "common", have declined at an alarming rate. Almost twice the normal number of great blue herons and great egrets were here, and a peak of 4,300 white pelicans were counted on the refuge late in September.

4 Doves

Population and reproduction seemed normal. Unseasonably cool weather in September however, with a frost on the 13th, chased the majority of the doves from the area earlier than normal much to the chagrin of hunters. Total use was estimated at one million days with a peak population of 5,000.

B. Upland Game Birds

A total of 30 wild turkeys were released on the refuge by the Missouri Department of Conservation in the previous two years. No poults have been seen, but a few sightings of turkeys throughout FY-75 still lends hope that they will become established. Turkeys have been reestablished in habitat similar to that found on the refuge within 25 miles of the refuge.

Bob white quail, the only other upland game bird inhabiting the refuge, remained quite plentiful throughout the year despite some adverse conditions.

C. Big-Game Animals

White-tailed deer is the only species of big-game animals utilizing the refuge. The population varied between 400 and 500 animals. Since the population has remained rather stable for the past several years despite good reproduction, it suggests that this is the carrying capacity of the habitat. Deer in excess of this amount are either harvested or serve to restock other suitable habitat off the refuge. A number of deer captured and marked on the refuge have been harvested or found dead up to 20 miles away, and one was road-killed on I-70 a straight-line distance of 75 miles from the refuge. Deer hunting is not permitted on the refuge, and recommendations are to continue this no hunting management practice. It is thought that the deer and the people are best served by not violating the sanctuary of the refuge.

D. Fur Animals, Predators, Rodents, and Other Mammals

Few fur animals inhabit the refuge. Most noticeable and those

exerting the most impact on the refuge are beavers. One colony keeps a 36" culvert plugged which causes some damage and disruption. Another colony has a dam across Elk Creek just below the Silver Lake outlet structures. This has caused no problems and is a point of interest to visitors, especially school groups. There is a shortage of preferred wood on the refuge so even oaks are cut and utilized by the beavers. It is thought this lack of preferred wood will hold the number of beavers within tolerance levels without having to resort to other means to hold them in check. Muskrats continue to be scarce, but the raccoon population increased. The raccoon population is still considered tolerable, but another increase in a like amount would call for a reduction. On the refuge they would pose a threat to nesting ducks, turkeys and other birds; and off the refuge to poultry and sweet corn.

Signs, howlings and sightings indicate a definite increase in the number of coyotes utilizing the refuge. Six pups were born and raised in a culvert within a quarter-mile of headquarters. Nor was the increase confined to the refuge. Shortly after the close of FY-75, one local farmer requested scare-guns to keep coyotes from eating his watermelons, and another farmer requested a scare-gun to keep coyotes from devouring his young pigs. No fox sightings occurred for the fifth year in a row.

Fox and grey squirrels continue to be abundant. The population of cottontail rabbits, however, declined probably from heavier predation by coyotes.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies

Hawk and eagle migrations coincide closely with waterfowl arrivals and departures with many more here in the winter than the summer. The hawk population remained about the same as in the previous year which was sub-normal, while the number of eagles increased in both years. A peak of 93 eagles were recorded on the refuge December 2. Eighty-nine were bald eagles and four were golden. Of the 89 bald eagles 54 were immatures which would seem to indicate a healthy population. Usually hawks outnumber eagles by about 5 to 1, but this year the ratio dropped to about 2 to 1. Eagles and to a lesser extent hawks do harass ducks and geese, but their predatorial pressure is well within toleration limits. They seem content to feed on goose carcasses rather than make fresh kills. Usually it takes only a few turkey vultures to police the refuge, but an unusual sighting of 27 of them soaring high overhead occurred just prior to the close of FY-75. There was no noticeable change in the crow and owl populations. Crows usually number no more than 50, and owls are seen and heard often enough to indicate a healthy population.

F. Other Birds

Sixteen American avocets and about 350 little blue herons remained

on the refuge for a month. Both species are uncommon to the area.

G. Fish

Refuge waters are suitable for and support primarily rough fish. Some channel catfish and crappie are taken in the spring, but these are really minority species. Although some natural restocking occurred during floods, the fishery in Swan Lake never fully recovered from the winter-kill of the previous year. No restocking was attempted. Fishing pressure and success were normal in Silver Lake and streams below structures that suffered no winter-kill. About two tons of rough fish were removed during the three-day seining season which could more appropriately be called "annual mud bath".

H. Reptiles

Few reptiles inhabit the refuge. Very few snakes and turtles were seen. One rattlesnake found close to the residence at sub-head-quarters was killed before rescue operations could be initiated. Mothers and boys don't like them in the play area.

I. Disease

With DVE still fresh in mind; and Swan Lakes rating as "the refuge most likely to succeed" in having an outbreak; the death of a couple of hundred geese triggered the alarm. The DVE plan was given a trial run. Thankfully, it turned out to be only a good "fire drill" with genuine "scare tactics" included. Dr. Pierson examined some 50 carcasses. All exhibited soybean impaction, and a couple were highly suspect of carrying aspergillus. This die-off occurred just two days prior to "open house" and five days prior to the opening of waterfowl season which added to the consternation. An inch of rain on October 28, alleviated conditions fostering further losses by impaction.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Converted headquarters area to underground electrical service which replaced an extremely inadequate 60 ampre service. After no bids were received, contracts were negotiated for rehabilitation work that included revamp wiring, insulate and steel-side, replace gutters and down spouts, and install central air conditioning in managers residence and headquarters building; reroof manager's residence, replace sidewalks in headquarters area, and de-termite two residences and headquarters building. These jobs hopefully, will solve some of our trials and frustrations of blown fuses, wind blown office and quarters, and blown gaskets from overheated bodies.

B. Plantings

1. Aquatics and Marsh Plants

None

2. Trees and Shrubs

Eight hundred pine trees and 600 multiflora roses were planted to aid the development of a wildlife trail. These plantings supplement previous plantings that fared poorly.

3. Upland Herbaceous Plants

None

4. Cultivated Crops

Refuge and State personnel farmed all but about 200 acres. These 200 acres are farmed under cooperative agreements by two cooperators. Acreages and yields of crops maturing in FY-75 are as follows. Corn, 800 acres, produced a total of about 20,000 bushels. Sorghum, 200 acres, produced a total of about 2,500 bushels. Some 1650 acres of wheat, grass, and clover produced an estimated 500 tons of browse.

Acreages and crops planted in FY-75 were a strong 600 acres of corn and a strong 400 acres of sorghum. Both crops looked good as of the end of FY-75.

C. Collections and Receipts

1. Seed or Other Propagules

Approximately 2,000 bushels of wheat were obtained from DeSoto N.W.R. and sown to produce browse.

2. Specimens

About 150 American coots were trapped and taken to the NADL at Ames, Iowa, to assess the hazard of these birds as carriers of Newcastle Disease.

D. Control of Vegetation; E. Planned Burning; F. Fires

All negative or considered normal and need no further documentation.

IV RESOURCE MANAGEMENT

All categories negative.

V FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report

1. A deer-movement study covering a period of four years was completed. Analysis of the data lead Biologist for the Missouri Department of Conservation to believe the refuge can best serve the deer herd and deer hunters by holding it closed to deer hunting. A thesis entitled "Refuges As Population Centers For Deer In Threatened Habitat" was accepted as partial fulfillment for a Master of Science Degree from the University of Missouri.

2. An eagle-waterfowl relationships study in its second year was tragically interrupted when an aircraft crash claimed the lives of Ms. Judy Southern, Mr. Terry Willson and pilot Lloyd Ailnut as they searched for eagles. Ms. Southern conducting the study had placed transmitters on six bald eagles captured on the refuge, and had chartered the plane to locate them. Mr. Willson was a temporary employee of the Missouri Department of Conservation who occasionally assisted Ms. Southern. The crash occurred February 10, when the plane struck a power line strung across the Osage River near Jefferson City, Missouri.

3. Fluoroscopy of Canada geese by Missouri Department of Conservation personnel continued. This is more of a monitoring program than special study. Geese are fluoroscoped to detect imbedded shot which gives some indication of hunting pressure. About 40 percent of the adults and 15 percent of the immatures carry imbedded shot. A Canada goose seemingly in good health and fluoroscoped in FY-74 still holds the lead-carrying record with 38 pellets and six fragments imbedded in its flesh.

4. Two hundred fifty wings and gizzards from immature Canada geese were collected from hunters for Patuxant study concerning lead content. To date no word has been received as to whether they were polluted or not.

VI PUBLIC RELATIONS

B. There were 105,000 visits made to the refuge in FY-75. This is 13,000 more than made in FY-74, but 28,000 less than the record year, FY-73. Evidently the fuel shortage "crunch" of FY-74 eased a bit in FY-75. Almost half the people came to view the wildlife, primarily the large number of Canada geese. Fishermen accounted for the second highest total in number of visits, and generated the most activity hours. "Open House" held the Sunday prior to the opening of the waterfowl season continued to be our best public relations program, and generated the "peak load day" of over 10,000 visitors.

D. Hunting

A total of 20,544 Canada geese were harvested by 41,805 hunters in

the Swan Lake Zone between noon October 30, and sunset November 20. This total includes 3,474 Canada geese harvested by 4,256 hunters hunting on the refuge. The harvest quota for the zone was 20,000 Canada geese in FY-75. In FY-74 the quota was 17,500. The FY-74 season lasted 14 days with a total of 19,207 being harvested of which 2,140 were taken on the refuge by 2,780 hunters. The post-season population of Canada geese in the Swan Lake Zone in both years was 170,000.

The refuge hunt was critically evaluated and is considered a quality hunt and experience. Regional Director Loveless and other Service personnel observed and participated in the hunt and evidently approved it since no recommendations to the contrary were received.

E. Violations

Missouri Department of Conservation Officers apprehended 48 violators. Fines and court costs totalled \$1,030 and \$704, respectively. No tally of Federal Agents apprehensions and subsequent fines has been received.

F. Safety

No lost-time accidents occurred during the year bringing the total to 3,728 days since the last one. All is not well, however. Mr. Benny N. Howerton, long time employee, suffered a severe heart attack November 4, and could not return to work. His recovery has been severely hampered by lung congestion caused from a severe allergy to geese, their droppings, their feathers, their dust, and their odor. Mr. Howerton was found positive to a histoplasmosis test in 1965. With each succeeding year after that he became more and more sensitive. For the past several years even tilling fields that had been heavily frequented by geese would cause him to suffer lung and sinus congestion, and subsequently, shortness of breath.

Mr. Howerton made claim for compensation by reason that his incapacities are directly related to his employment. After filling out form after form and returning to this office, his physician and hospital for more and more records and information, much of which is duplication, nay, quadruplication of information already furnished; he still is awaiting the decision, and each request for "additional information" just delays it that much longer.

VII OTHER ITEMS

A. Items of Interest

1. A 21-year old person, Pamela Sue Moore of Brookfield, Missouri, committed suicide on the refuge boundary by shooting herself in the head with a .22 caliber pistol.

2. Missouri Department of Conservation Headquarters located on the refuge was broken into and burgled twice. Typewriters, boots, cracker shells, and two-way radios were taken. No apprehensions or suspects have surfaced.

SIGNATURE PAGE

Submitted by:

Alfred O. Markle
(Signature)

Refuge Manager
Title

Date: 12/1/75

Approved, Area Manager

Date: 12/1/75

James M. Salzer
(Signature)

Concurrence

Date: _____

(Signature)
Chief, Division of Land Management